



U.S. Fish & Wildlife Service

National Wildlife Refuge System

Northeast Region – 2010 Report



In 2010, the Service accepted the donation of 420 acres in northern Vermont from the Michael Dunn Trust. The property along the shore of Lake Memphremagog will be managed through an agreement with the State.

Northeast Region: Fiscal Year 2010

Operations budget:	\$42,442,284
One year project funding:	\$12,796,202
Fire funding:	\$3,732,217
Realty funding:	\$2,850,467
Full-time staff:	362
Visitors:	5,824,797
Friends groups:	52
Volunteers:	6,332
Volunteer hours:	218,765

The U.S. Fish and Wildlife Service (Service) manages 72 national wildlife refuges within its 13-state Northeast Region. From the boreal forests of Maine south to the Great Dismal Swamp in Virginia, refuge lands protect some of the most significant environments in the eastern United States for migratory birds, threatened and endangered species, and other native wildlife.

National wildlife refuges are for people, too. They are places where we can watch wildlife, hunt and fish, and enjoy nature.

We celebrated many accomplishments on national wildlife refuges in 2010. Learn more in this annual report about the work we've done this year to uphold the agency's mission, practice sound science to make strategic management decisions, serve as stewards of resources in our trust, cultivate future leaders, and connect people with the outdoors.

Visit our website at <http://www.fws.gov/northeast/refuges>.

Upholding Our Mission

The mission of the National Wildlife Refuge System is “to administer a national network of lands and waters for the conservation, management, and where appropriate, restoration of fish, wildlife and plant resources and their habitats within the United States for the benefit of present and future generations of Americans.” This year we have made organizational changes to manage wildlife resources across landscapes, put stimulus funds into action on the ground, and become more energy-efficient. Volunteers and exceptional employees have contributed greatly to our success.

Looking ahead, we are participating in the National Wildlife Refuge System’s year-long initiative to update our vision. The process, which builds on the 1998 document, “Fulfilling the Promise,” focuses on conservation delivery, planning and design, science, relevance, and leadership. We are very proud that several of our Northeast Region employees are members of teams addressing each of these focal areas. This visioning project will guide the future of refuges for the next 10 to 20 years.



Ralph Thiner/USFWS

The Service as part of the conservation community is working to protect wildlife across landscapes.

Investing in our scientific foundation

Exciting changes paved the way this year for us to carry out the mission of the National Wildlife Refuge System in the Northeast, including the formation of the North Atlantic Landscape Conservation Cooperative (LCC). Coordinated by the Service, LCCs are geographically based science partnerships that inform on-the-ground conservation at landscape scales.

In partnership with LCCs this year, the National Wildlife Refuge System created a nationally coordinated program of inventory and monitoring (I&M) on national wildlife refuges. The I&M program will include science-based conservation planning and management at the scale of refuges and beyond. It will also provide data collection and data entry for refuges within LCC areas, and will help us adapt to climate change. Our region received \$1 million in I&M funding, and another \$1 million to distribute to refuges for high-priority projects.

We adjusted our organization and new positions were created to support the LCC and I&M programs. We have reestablished the Division of Natural Resources that includes an I&M coordinator, I&M biometrician/modeler, biologists, and data manager. We have also established a land management research demonstration project in the region, in the Northern Forest. This project will include a total of four foresters, three of which are new positions.

Recovery Act funds improvements, provides local jobs

We were incredibly fortunate in 2009 to receive \$29 million under the American Recovery and Reinvestment Act (ARRA) of 2009 to fund construction, habitat restoration, and energy efficiency improvements on refuges in our region. In addition to improving infrastructure and wildlife habitat, these projects created hundreds of jobs and income for communities near national wildlife refuges. All projects are either underway or completed.

The two largest ARRA projects in the region are \$9.76 million to build a visitor center and headquarters at the Long Island National Wildlife Refuge Complex in Shirley, N.Y., and \$6.1 million to modernize facilities at the Patuxent Research Refuge in Laurel, Md., making it a world-class center for the science of wildlife conservation.

Other ARRA-funded projects include:

- Completion of a visitor center at Assabet River National Wildlife Refuge (Mass.).
- \$1.4 million to restore Monomoy Point Light Station at Monomoy National Wildlife Refuge (Mass.).
- Construction of a residential facility, trail and an observation platform at Rachel Carson National Wildlife Refuge (Maine).
- Removal of old runways and taxiways and restoration of wildlife habitat at Shawangunk Grasslands National Wildlife Refuge (N.Y.).
- Water line replacement project at Chincoteague National Wildlife Refuge (Va.).



The new refuge center on Long Island is within an hour’s drive of 7.5 million people.



ARRA supported the creation of exhibits for a new energy-efficient refuge visitor center in eastern Massachusetts.

- Restoration of 75 acres of wildlife habitat at Edwin B. Forsythe National Wildlife Refuge (N.J.).
- New exhibits at the Helen C. Fenske Visitor Center at Great Swamp National Wildlife Refuge (N.J.).
- Refurbishing of residences and boat storage facilities at Rappahannock River Valley National Wildlife Refuge (Va.).
- Thirteen energy-efficiency and infrastructure improvements and 23 energy audits throughout the region.



An historic home in Virginia Beach was renovated as an office for Back Bay National Wildlife Refuge (Va.). This ARRA project benefited a local construction company and businesses.

Being “green” is a natural choice

As one of the nation’s premier natural resources agencies, it is our responsibility to be at the forefront of conservation and model “green” government. By investing in sustainable design, the National Wildlife Refuge System in the Northeast strives to leave the lightest possible footprint on the environment. Here are just some of the ways we have “gone green” in 2010:

- Our ARRA-funded refuge facility on Long Island is being built to LEED Gold certification standards. It features a geothermal heating and cooling system, recycled-content building materials, and solar-powered electricity.
- New visitor facilities at Assabet River (Mass.) and E.B. Forsythe (N.J.) national wildlife refuges have recycled-content building materials, geothermal heating and cooling, and solar panels.
- We made improvements to geothermal heating and cooling systems at Eastern Shore of Virginia, Prime Hook (Del.), John Heinz (Pa.), Blackwater (Md.), and Back Bay (Va.) national wildlife refuges.
- We installed solar panels at Ohio River Islands (W.V.) and Kettle Pond Visitor Center (R.I.) national wildlife refuges.
- A standard exhibit developed for all new refuge visitor centers interprets our green efforts and shows how everyone can have a positive impact on the environment through sustainability.

The Parker River National Wildlife Refuge (Mass.) Visitor Center and Headquarters building received one of two Federal Energy and Water Management Awards issued



Christine Chung, refuge intern, was deployed to the oil spill.

Responding to the Deepwater Horizon BP Oil Spill

Over 50 employees from about 20 national wildlife refuges in the Northeast Region responded to the oil spill in the Gulf of Mexico. They filled positions such as resource advisor; wildlife recovery team member; wildlife morgue assistant, media liaison, planning section chief, time recorder; driver; cultural resources assistant, and dispatcher. Regional refuge fire staff helped dispatch more than 200 people from all programs in the region to the oil spill.



Using the power of the sun at Parker River National Wildlife Refuge

by the U.S. Department of Energy in 2010. The refuge installed a solar photovoltaic system that generates 33-percent of its electricity. More than 250,000 visitors to the refuge learn about green features annually.

We continue to reduce our energy consumption each year relative to 2003 energy intensity ratings. We expect to be operating at 18 percent below those levels by 2011.

What would we do without our Refuge Friends and other volunteers?

We have 52 Refuge Friends groups in the region who volunteer their time, energy and expertise to support and advocate for our refuges. Examples of Refuge Friends projects this year include:

- The Friends of Rhode Island National Wildlife Refuges sponsored their 10th annual photo contest, offering a youth category for the first time.
- The Friends of Erie National Wildlife Refuge (Pa.) participated in the French Creek watershed cleanup.
- The Friends of Iroquois National Wildlife Refuge (N.Y.) installed a camera overlooking a refuge marsh, providing visitors with a live view of wildlife.
- The Friends of Moosehorn National Wildlife Refuge (Maine) published a video with a grant from the National Wildlife Refuge Association that serves as an outreach tool and a fundraiser for the group.

In March, 100 Refuge Friends group representatives from 33 refuges and three national fish hatcheries participated in a two-day workshop at the National Conservation Training Center in West Virginia. The workshop was an opportunity to keep the groups abreast of Service priorities and initiatives. It also provided a venue for networking, skill-building and sharing of ideas among staff and volunteers to empower the Refuge Friends' ongoing efforts.

Time contributed by refuge volunteers in 2010 equates to the service of 100 full-time employees.



In addition to the contributions of Refuge Friends groups, thousands of volunteers donated nearly 220,000 hours to wildlife and conservation at refuges in the Northeast - the equivalent of more than 100 full-time employees. Volunteers conducted wildlife surveys, cleaned beaches, led school groups, removed invasive species, and helped with day-to-day operations of our offices and visitor centers. Their help was invaluable in meeting our mission this year.

- Nearly 350 volunteers participated in Make a Difference Day at the Edwin B. Forsythe National Wildlife Refuge (N.J.) in October, helping to clean the refuge's eight-mile Wildlife Drive.
- Canaan Valley National Wildlife Refuge (W.Va.) partnered with volunteers from the American Hiking Society to help improve a public use trail. Twelve volunteers worked at the refuge for five days, contributing more than 360 hours of labor.
- More than 6,000 hours were donated by volunteers at Prime Hook National Wildlife Refuge (Del.), providing support for office operations and staffing environmental education programs for hundreds of local students.
- At Back Bay National Wildlife Refuge (Va.), volunteers reconstructed the refuge's Charles Kuralt Trail boardwalk and overlook, converting the boardwalk from lumber to recycled composite material. Volunteers also drove the refuge tram and conducted interpretive tours, staffed the visitor contact station, and assisted with sea turtle nest patrol and nest-sitting.

Recognizing exceptional public service

This year several individuals were recognized for their outstanding contributions to the National Wildlife Refuge System.



Zeeger de Wilde, National Wildlife Refuge System Volunteer of the Year

Zeeger de Wilde, volunteer at the Chesapeake Marshlands National Wildlife Refuge Complex (Md., Va.), was honored by the National Wildlife Refuge Association and National Fish and Wildlife Foundation with the 2010 Refuge System Volunteer of the Year award. This award recognizes a volunteer who exemplifies outstanding dedication and passion for wildlife conservation.

Andrea VanBeusichem, visitor services manager at Montezuma National Wildlife Refuge (N.Y.), was awarded the Beacon Award by the American Recreation Coalition. This award recognizes her innovative use of technology in visitor services and recreation management for her development of a self-guided cell phone tour of the refuge.

Two employees received 2010 Individual Environmental Leadership Awards from the U.S. Department of Energy. Frank Drauszewski, deputy refuge manager at Parker River National Wildlife Refuge (Mass.) was recognized in the Environmental Management System area for the solar photovoltaic array installed on the refuge headquarters. James Britt, refuge law enforcement officer at Wallkill River National Wildlife Refuge (N.J.) was recognized in the area of Green Purchasing for the use of green ammunition for both firearms practice and qualification, and eliminating lead contamination at firearms ranges.

John Gallegos, Senior Biologist at Back Bay National Wildlife Refuge (Va.) received the regional National Wildlife Refuge System Biologist of the Year award for his work to protect and restore fish and wildlife resources on the refuge and throughout the bay's watershed.

Amanda Hardaswick was selected as the region's Refuge Law Enforcement Officer of the Year. Officer Hardaswick was honored by her peers and management for her proactive approach to refuge law enforcement at Patuxent Research Refuge (Md.). She is a member of the Service's honor guard established in 2010.

Jennifer Hill, Natural Resources Planner at Patuxent Research Refuge (Md.), was our 2010 regional recipient of the Sense of Wonder award recognizing outstanding contributions in the field of interpretation and environmental education within the Service. She was selected for her work on a camp for fourth and fifth grade students from Washington, D.C.

Sound Science, Strategic Decisions

We pride ourselves in investing in sound science to make the best possible biological decisions on national wildlife refuge lands and across landscapes with our partners. Our biologists are an integral part of a broader conservation community managing fish and wildlife in the face of 21st century challenges. Refuge habitats are affected by habitat loss, spread of invasive non-native plant and animal species, and other environmental threats, some exacerbated by climate change.

Restoring habitat for wildlife

Many natural resource management accomplishments on national wildlife refuges contribute to long-term habitat restoration goals. Some of our nationwide habitat restoration accomplishments this year include:

- Restoring five miles of stream and shoreline habitat to improve water quality for aquatic species of concern such as Atlantic salmon.
- Restoring 33 acres of upland habitat.
- Controlling 1,436 acres of invasive plants to help revive native vegetation.
- Restoring 89 acres of coastal and marine habitats for beach-nesting birds, including the federally listed threatened piping plover; species of concern such as least terns and American oystercatchers, and a wide variety of migratory birds.

Managing in a changing climate and planning for sea level rise

We entered into a unique partnership with the Manomet Center for Conservation Sciences in Massachusetts to study climate change and its impacts on shorebirds throughout the Northeast. A refuge biologist completed a one-year detail with the Manomet Center where she developed a tool for refuge managers to measure the vulnerability of their sites to climate change, consider what options are available to best maintain shorebird habitat, and involve stakeholders in the planning process. The assessment tool has been completed at three pilot sites, including Monomoy (Mass.), Chincoteague (Va.) and Edwin B. Forsythe (N.J.) national wildlife refuges, all of which are important shorebird habitats recognized by the Western Hemisphere Shorebird Reserve Network.

In collaboration with the National Park Service and Rutgers University, we began a planning effort to inventory and monitor coastal shorelines on 13 national wildlife refuges in our region. This first step of a long-term program will lead to a greater ability to manage and respond to shoreline change due to sea level rise and more intense storms, and better understanding of the effects of urbanization and other factors.

Chesapeake Marshlands National Wildlife Refuge Complex (Md., Va.) and the Northeast Region's Fire Management Program partnered with the National Oceanic and Atmospheric Administration (NOAA) National Geodetic Survey to test a GPS technology to measure marsh elevation. Researchers will determine whether the frequency of prescribed fire is a better predictor of change in marsh surface elevation than other factors.

Chincoteague National Wildlife Refuge (Va.) joined forces with the Marine Science Consortium and NASA to refine sea level rise models. A NASA aircraft equipped with light detection and ranging (LiDAR) recorded precise elevation data that will be incorporated into future models that forecast the effects of sea level rise on coastal habitats.

The Eastern Shore of Virginia National Wildlife Refuge is also piloting a National Wildlife Refuge System vulnerability assessment protocol to address the environmental impacts of climate change. The results will be used to develop a standard method to inform management decisions.

Strategically planning for the future

The National Wildlife Refuge System Improvement Act of 1997 requires the Service to write a comprehensive conservation plan (CCP) for each refuge by 2012. The 15-year plans are intended to describe future conditions of a refuge and provide guidance and management direction to achieve the refuge's purpose, meet policy requirements and advance the System's mission. Refuge CCPs are developed through a process that invites public participation and includes the public-private conservation community.

The region completed CCPs for five refuges in 2010, including Back Bay (Va.), Eastern Neck (Md.), John Hay (N.H.), Nomans Land Island (Mass.), and Rappahannock River Valley (Va.). The final CCP for Nomans Land Island recommended wilderness designation. That plan was completed in close consultation with the Wampanoag Indian Tribe.

The CCPs for Canaan Valley (W.Va.), Iroquois (N.Y.), and Supawna Meadows (N.J.) national wildlife refuges were released for public review and comment. Refuge planners continue to work on an additional 14 CCPs.



Our biologists study ways to predict sea level rise to manage for climate change.



We are evaluating the long-term merits of individual impoundments for wildlife.

Freshwater Impoundments

For decades, maintaining freshwater impoundments (man-made pools) to enhance wetlands, improve productivity to compensate for marsh loss, and encourage waterfowl production has been a primary management tool on many national wildlife refuges in the region. The National Wildlife Refuge System Improvement Act of 1997 and subsequent policies require refuges to “manage for naturalness” if we can meet our trust responsibilities by doing so. In light of this, we are evaluating our past activities by using a structured decision making process with our partners to determine the merit of impoundments on specific refuges, their current value and their benefits to other wildlife.

Refuge staff are using results of the process to monitor each impoundment and inform management decisions to improve migratory bird, fish and endangered species habitat. In the coming years, all coastal refuge managers will be faced with difficult decisions about wetland impoundment management. As sea level rises, maintenance of coastal impoundments will become more challenging and more expensive.

Controlling invasive species

Non-native invasive species are plants and animals that have been introduced from another part of the world and have taken over a particular habitat, reducing its value for our native wildlife. Refuges across the region worked hard to control and manage invasive species this year. For example:

- Great Swamp National Wildlife Refuge (N.J.) joined the Central Jersey Invasive Species Strike Team to map invasives on the refuge and target control efforts.
- The Eastern Massachusetts National Wildlife Refuge Complex along with volunteers and partners spent more than 180 hours mapping invasives on refuge lands. They mapped over 200 acres leading to the treatment of 125 acres on three refuges. The mapping project also led to the discovery of five new plant infestations, allowing for early detection and treatment.

In addition to these on-the-ground efforts, we are evaluating how to control the highly invasive plant *Phragmites australis* (common reed), a species that can destroy the value of native wetlands if left unchecked. Current control techniques using pesticides and flooding have become less effective, are expensive and may result in unintended consequences such as increasing resistance to treatment, collateral damage to native species, and risking the stability of marshes in the face of rising sea level. A structured decision-making process in partnership with U.S. Geological Survey and Cornell University is under way to determine future management strategies.

Chesapeake Bay Initiative

Chesapeake Bay, the largest estuary in North America, is the economic and recreational lynchpin for the 16 million people living within its watershed. The bay is experiencing increasing amounts of sediments, toxins and nutrients. It shows signs of an ecosystem on the brink of disaster. In May 2009, President Obama signed the Chesapeake Bay Protection and Restoration Executive Order to guide restoration efforts in the watershed.

The Service has a strong presence in the area, with numerous national wildlife refuges within the watershed. In partnership with public and private sector partners, we have embarked on several restoration projects aimed at rebuilding some of the bay’s most at-risk areas.

A restoration project at Barren Island in Maryland will protect mainland communities from erosive wave action.





The living shoreline at Hail Cove creates habitat for blue crabs, diamondback terrapins, fish, oysters and mussels.

At Hail Cove, an important area for waterfowl located within Eastern Neck National Wildlife Refuge (Md.), partners have created a breakwater at the mouth of Hail Creek to prevent flow of sediments into the bay. A living shoreline project at the site designed to reduce erosion received the Coastal America Partnership Award.

At Blackwater National Wildlife Refuge (Md.), six acres of tidal marsh were restored on Barren Island, which is one of the few remaining islands in the Chesapeake Bay as most have been lost to sea level rise, erosion and land subsidence. This island serves as important habitat for estuarine fish and shellfish, waterfowl and nesting colonial waterbirds. The refuge worked with the U.S. Army Corps of Engineers to provide suitable locations for the placement of clean dredged material to replace marsh lost to erosion and form the foundation for the restoration. The National Aquarium at Baltimore played a key role in acquiring marsh grasses and organizing volunteers to plant more than 42,000 plugs of marsh grass. Local students and refuge interns participated in the restoration effort.

Coastal bird management

We have entered into a multi-region project within the Service to improve the study and conservation of waterfowl, shorebirds and marsh birds throughout the Atlantic Flyway. As part of the Integrated Waterbird Management and Monitoring Project we have developed biological monitoring protocols that will guide management decisions. National wildlife refuges in partnership with states and other entities throughout the eastern U.S. are collecting and testing scientific data to lead to better protection and management for these species.

Black duck studies

National wildlife refuges in the region are working with state agencies to conduct black duck banding projects to support the efforts of the Black Duck Joint Venture. In order to learn more about their seasonal survivability, the Joint Venture proposed a 5-year pilot study of these declining birds, including banding to monitor their migratory patterns and seasonal survivability. Banding occurred this year at Eastern Neck and Blackwater national wildlife refuges (Md.), Moosehorn National Wildlife Refuge (Maine), and Montezuma National Wildlife Refuge (N.Y.). The birds were also tested for avian influenza.

Notable biological projects this year

- Great Meadows National Wildlife Refuge (Mass.) is partnering with Rhode Island National Wildlife Refuge Complex, Parker River National Wildlife Refuge (Mass.), Rachel Carson National Wildlife Refuge (Maine) and other national wildlife refuges in the Northeast to test techniques for establishing and improving native shrub habitat for species such as the New England cottontail.
- Great Bay (N.H.) and Parker River (Mass.) national wildlife refuges surveyed for bats by detecting their calls and capturing them with nets. The results suggest that both refuges provide important habitats for bats. All bats captured were in good condition and did not show any sign of white-nose syndrome.

- Monomoy National Wildlife Refuge (Mass.) is a world-renowned refuge for migratory birds. Thirty-two pairs of piping plovers nested, and 77 chicks fledged. The common tern population on South Monomoy Island nearly tripled from 2009 to 6,450 in 2010. Nine pairs of federally endangered roseate terns nested on the refuge in 2010, while none nested in 2009.
- Thanks to burned area rehabilitation funding from the Department of Interior, Great Dismal Swamp National Wildlife Refuge (Va.) conserved Atlantic white cedar forests by planting 117,000 seedlings on 390 acres. The seedlings were planted in areas not expected to regenerate naturally due to the intensity of the 2008 South One fire, which burned for four months in peat soils. The restoration effort was done in partnership with Christopher Newport University.

- The Nulhegan Basin Division of the Silvio O. Conte National Fish and Wildlife Refuge (Vt.) is collaborating with the Service's Partners for Fish and Wildlife Program and The Conservation Fund (TCF) to manage habitat within 26,000 acres of the refuge and 4,800 acres of TCF's McConnell Pond tract. This forest conservation partnership reduces forest loss, provides wildlife corridors, and promotes healthy ecosystems.
- In May, Iroquois National Wildlife Refuge (N.Y.) and Ducks Unlimited (DU) celebrated their multi-year partnership on the Mohawk Pool restoration project, which subdivided an existing marsh on the refuge to improve water management and wetland habitat.

Resource Stewardship

As conservation stewards, we continue to acquire properties that offer nationally significant wildlife habitat, support recovery efforts for threatened and endangered species on refuge lands, enforce federal wildlife laws and ensure public safety, administer a fire management program, and protect cultural resources in our trust.



We acquired land this year for the Silvio O. Conte National Fish and Wildlife Refuge in Massachusetts.



Biological studies this year determined that the Maine Coastal Islands National Wildlife Refuge Complex supports a robust flyway for migratory birds crossing the Gulf of Maine.

Acquiring key refuge properties

One of the most important things we do to meet our mission in the densely populated Northeast is to protect lands and waters for fish and wildlife. During 2010, we acquired more than 41 properties from willing sellers, protecting 3,100 acres on 13 national wildlife refuges. Nearly half of the acres are on refuges in the Chesapeake Bay watershed and nearly a third are in the Northern Forest, two nationally significant ecosystems.

In October, we acquired land in northeastern Pennsylvania, officially establishing America's 553rd national wildlife refuge. The boundary for Cherry Valley National Wildlife Refuge was approved in 2008 after years of advocacy for its creation. The Cherry Valley National Wildlife Refuge Partnership received the Department of the Interior 2010 Partners in Conservation Award, recognizing the 14 partner organizations who worked on the project.



The Cherry Valley National Wildlife Refuge boundary encompasses important habitats for bog turtles and other rare species, and a major migratory corridor for birds and bats.

Maine Coastal Islands National Wildlife Refuge Complex accomplished the first exciting step in its long-time goal of improving management efficiency and gaining greater visibility by acquiring a building for a headquarters and visitors center. The regional Division of Realty and with the Friends of Maine Seabird Islands played critical roles in obtaining funding and purchasing a building on the waterfront to serve visitors and manage refuge lands.

Protecting imperiled species

A quarter of the 1,200 plant and animal species listed as federally threatened or endangered occur on national wildlife refuges. About a tenth of national wildlife refuges were created specifically to protect these species.

Refuge biologists completed more than 200 tasks this year supporting recovery plans for threatened and endangered species. We dedicated funding for long-term projects at 10 national wildlife refuges to help recover piping plovers, a federally threatened shorebird. The funding will increase plover productivity with nest monitoring, predator exclosure and management, and public outreach and education.

White-nose syndrome, a wildlife disease affecting bats, was first documented in 2007. Since that time, it has spread rapidly, decimating bat populations in much of the eastern U.S. We collaborate with other Service programs and the conservation community to address this significant environmental threat. Refuge biologists are collecting baseline data about bats to help inform conservation decisions. Other recovery highlights on refuges this year include:

- After several years of habitat restoration prescribed by its comprehensive conservation plan, Great Dismal Swamp National Wildlife Refuge (Va.) now has 2,000 acres of pine/pocosin habitat suitable for red-cockaded woodpecker reintroduction.



Massachusetts schoolchildren rear Blanding's turtles as part of a refuge reintroduction program.



The Service this year established an official Honor Guard. Law Enforcement Officer Amanda Hardaswick (pictured) was selected to serve from the Northeast Region.

The refuge plans to release five pairs of red-cockaded woodpeckers, a federally endangered species, in the fall of 2011.

- Adult broodstock Atlantic salmon are released each year in Hobart Stream to restore the federally endangered species to a traditional salmon tributary of the Penobscot River watershed near Moosehorn National Wildlife Refuge (Maine).
- Blanding's turtles are raised in a program in local schools, equipped with radio-transmitters, and released at Assabet River National Wildlife Refuge (Mass.). This year, a record 80 hatchlings got a "head start".
- New England cottontails were studied at Mashpee National Wildlife Refuge (Mass.) as part of broader efforts to protect the region's only native rabbit species. Friends and partners of the refuge have been instrumental in documenting the rare rabbit, which is a candidate for listing under the Endangered Species Act.

Upholding wildlife laws

Thirty-three national wildlife refuge law enforcement officers enforce federal laws and regulations, and ensure public safety both on and off refuge lands in the region. In 2010, we filled nine vacancies, several with graduates of youth career programs. Program highlights in 2010 include:

- A successful search and rescue at Elizabeth Hartwell Mason Neck National Wildlife Refuge (Va.), prevented a likely death.
- Coordination of a multi-agency waterfowl task force on lands and waters around Back Bay National Wildlife Refuge (Va.).
- Continued collaboration between refuge law enforcement and the Service's Office of Law Enforcement, promoting co-location of special agents and uniformed refuge officers to improve efficiency.
- A memorandum of understanding between the Service and the U.S. Park Police for shared operational capacity in Washington, D.C., and Baltimore.
- Public safety support for a major aircraft show adjacent to Great Bay National Wildlife Refuge (N.H.).

Keeping fire on our side

Refuge fire staff throughout the region had a busy year, putting out unwanted fires and using prescribed burns and other tools to reduce wildfire risk, restore ecosystems, and improve habitat. In April, a wildfire that started along the New York Thruway burned almost 700 acres of dry marsh at Montezuma National Wildlife Refuge. Although ash fell on the heads of a pair of bald eagles nesting within 30 feet of the fire, the pair continued to incubate their eggs. Our firefighters worked side by side with local and state firefighters to monitor the fire. Because it burned early in the migration/nesting season, wildlife impacts were minimal and overall habitat impacts were mostly beneficial.

On Cape Cod, following safety protocols, firefighters prevented a municipal firefighter from sustaining serious injuries. After seeing our firefighters wearing chain saw chaps and other protective equipment while clearing brush, Mashpee (Mass.) Fire and Rescue equipped their brush trucks with chaps. Following a later incident, the fire chief concluded that his firefighter would have been badly injured had his department not adopted the protective practices of our firefighters.



We conduct prescribed burns to restore and manage wildlife habitats.

Safeguarding cultural resources on refuges

Along with protecting wildlife, habitat and people on our national wildlife refuges, the Service also protects cultural resources. With the help of ARRA funding, our regional cultural resources team grew from two to four full-time employees in 2010. A student was also hired to provide temporary assistance through the Student Temporary Employment Program (STEP). This year, the team and volunteers completed cultural resource studies for the ARRA-funded projects at Patuxent Research Refuge (Md.), rehabilitation of the Monomoy Point Light Station (Mass.), construction of an Underground Railroad interpretive boardwalk at Great Dismal Swamp National Wildlife Refuge (Va.) and a wetland restoration at Ohio River Islands National Wildlife Refuge (W.Va.).

The studies revealed historically significant artifacts and prehistoric archeological sites. We also discovered Native American relics dating back 400 to 8,000 years at the sites of new visitor centers at Wertheim National Wildlife Refuge on Long Island (N.Y.), Occoquan Bay National Wildlife Refuge (Va.), and Assabet River National Wildlife Refuge (Mass.). The rich cultural history at these sites will be interpreted in exhibits and programs.

Our cultural resources team played a key role in rehabilitation projects this year at Matinicus Rock Light Station and Petit Manan Light Station on Maine Coastal Islands National Wildlife Refuge Complex and 19th century buildings at Rappahannock River National Wildlife Refuge (Va.).



Historically significant artifacts were found during a cultural resources study for the rehabilitation of the Monomoy Point Light Station, listed on the National Register of Historic Places.

Cultivating Future Conservationists

The National Wildlife Refuge System in the Northeast continues to invest significantly in youth employment programs. We are providing career opportunities to encourage future leadership in the wildlife conservation profession.



Twenty-nine college students participated in the 2010 Conservation Internship Program on national wildlife refuges.



A portion of ARRA funding for youth employment was directed to other Service programs.

We hired more than 500 high school and college students this year into seasonal positions and internships at national wildlife refuges throughout the region. These young adults gained valuable experience in wildlife management, visitor services and teamwork.

We continued to support a robust Youth Conservation Corps (YCC) program for teenagers. ARRA, in its second and final year of funding, allowed the region to nearly double the number of YCC crews on national wildlife refuges with nearly 200 students participating in the 2010 program. Additionally, ARRA funding for youth was expanded beyond refuge boundaries to support STEP and Student Conservation Association internships in other regional programs, including Ecological Services, Fisheries and External Affairs.

In its third year, the Conservation Internship Program (CIP) introduced college students from across the country to natural resource careers. The CIP internships are offered in partnership with the Student Conservation Association and are designed to introduce students to the work of the Service and support the agency's diversity recruitment efforts.



The YCC program offers high school students field experience in wildlife conservation. This crew is pulling invasive water chestnut plants.

Many refuges offer local opportunities for youth. Some highlights include:

- Through a partnership between AmeriCorps and the regional fire management program, interns helped conduct controlled burns on more than 1,000 acres of refuge land, affording them valuable field experience and amounting to nearly \$16,000 in salary savings.
- YCC and AmeriCorps students at Great Dismal Swamp National Wildlife Refuge (Va.) helped build a boardwalk interpreting the role of the swamp in the history of the Underground Railroad.
- An Eagle Scout completed a project to build an accessible bench at a fishing and canoeing area at Wallkill River National Wildlife Refuge (N.J.).
- The YCC at Blackwater National Wildlife Refuge (Md.) completed a portable blind for disabled hunters, performed water testing and fish sampling, and helped with an environmental education camp.
- STEP and Student Career Experience Program (SCEP) hires performed a variety of biological tasks at Moosehorn National Wildlife Refuge (Maine), including banding and releasing American woodcock, and monitoring for avian influenza.
- Three colleges brought students to Canaan Valley National Wildlife Refuge (W.Va.) to volunteer for the annual fall spruce planting. Sixty-five students planted 2,000 native red spruce seedlings on 14 acres of refuge land.

Connecting People with the Outdoors

In 2010, nearly 6 million people visited national wildlife refuges in the Northeast. In addition to providing quality wildlife dependent recreational opportunities for these visitors, our refuges saw the addition of four new visitor centers/contact stations, and more than 8,000 feet of new boardwalk. Trails, boat ramps and fishing piers were also constructed. The Refuge System Improvement Act of 1997 identified six priority public uses of refuges: hunting, fishing, wildlife observation, wildlife photography, environmental education and environmental interpretation. We continue to provide excellent opportunities for these uses on our refuges.

Enhancing the visitor experience

2010 saw the completion of an energy-efficient visitor center at Assabet River National Wildlife Refuge (Mass.) that will serve as the focal point of the Eastern Massachusetts National Wildlife Refuge Complex, which encompasses several important habitats throughout the greater Boston metropolitan area.

The new ARRA-funded exhibits at the Helen R. Fenske Visitor Center at Great Swamp National Wildlife Refuge (N.J.), located less than 30 miles outside of New York City, were developed through a joint partnership among refuge staff, volunteers and the Friends of Great Swamp.

Visitor contact stations were completed at Parker River National Wildlife Refuge (Mass.) and Edwin B. Forsythe National Wildlife Refuge (N.J.). Construction began this year for the ARRA-funded Long Island National Wildlife Refuge Complex visitor center in Shirley, N.Y.



The Silvio O. Conte National Fish and Wildlife Refuge created a mobile exhibit center to reach audiences throughout the Connecticut River watershed.

Evaluating our programs

Visitor services reviews are conducted at refuges entering the CCP process. The reviews document a refuge's current visitor services program, help strategize the direction of visitor services in the future, and look at critical visitor services issues.

In 2010, visitor services reviews were conducted at Parker River National Wildlife Refuge (Mass.) and Sunkhaze Meadows National Wildlife Refuge (Maine). Nine refuges in the region are among 50 included in a national visitor survey for the National Wildlife Refuge System. Led by the U.S. Geological Survey, the survey will afford managers a better understanding of the demographics of refuge visitors and their satisfaction with services and facilities.

Connecting through new media

We continued to embrace communicating to our publics via social media this year, connecting with people through websites, Facebook, Twitter, Flickr and blogs. Our Regional Chief posts regularly to a blog for employees. Researchers on the Maine Coastal Islands National Wildlife Refuge maintained a blog during the summer that offered readers insight into living with and protecting critical populations of seabirds in a remote field setting.

Hunting

Hunting has been a part of the American culture for many years and our Northeast refuges provide quality recreational hunting experiences. Hunting is also an important wildlife management tool. In 2010, more than 70,000 visitors hunted on refuges in our region. Some refuge highlights:

- Iroquois National Wildlife Refuge (N.Y.) hosted its annual Youth Turkey Hunt Orientation and Young Waterfowler's Training Program for hunters, ages 12 to 17.
- Patuxent Research Refuge (Md.) hosted the 77th annual Federal Duck Stamp Competition in Oct. 2009. First-place went to Robert Bealle, a local artist from Waldorf, Md., for his depiction of an American widgeon, as seen on the 2010-2011 Federal Duck Stamp. Waterfowl hunters across the country purchase duck stamps to hunt, and 98 percent of all funds generated by duck stamps goes to purchase land for wildlife conservation.

Fishing

We offer some of the finest fishing in the country. Whether surf-casting for stripers, fly fishing for trout, or clamming, 500,000 anglers took part in fishing programs on our refuges this year. In June, several refuges across the region celebrated National Fishing and Boating Week with fishing activities. These events introduced participants, mainly children, to the sport through hands-on activities and demonstrations. Hundreds of young people attended the events.

Wildlife Observation and Photography

Our refuges attract a diversity of resident and migratory wildlife, providing unparalleled opportunities to observe and photograph animals in their natural environment. Here are just some of the ways we provided quality experiences on our refuges:

- Patuxent Research Refuge (Md.) staff and volunteers hosted their third annual Birding for the Blind event in May, designed specifically for visually impaired people, their families and friends.
- Eastern Neck National Wildlife Refuge (Md.) rehabilitated a refuge observation platform popular for wildlife viewing and photography, located along the Chesapeake Bay.
- More than 1,300 citizens attended the annual Cradle of Birding Wildlife and Conservation Festival at John Heinz National Wildlife Refuge at Tinicum (Pa.).
- Rachel Carson National Wildlife Refuge (Maine) hosted its seventh annual summer photo contest in July and August.

Environmental Education and Interpretation

Refuges in the Northeast harbor pristine habitat amidst some of the nation's most urban areas. Nearly 70,000 students used our refuges as an outdoor classroom this year.

- During the summer, interns at Rachel Carson National Wildlife Refuge (Maine) visited local beaches with backpacks full of lessons and interactive games about beach-nesting shorebirds and the importance of protecting their habitat as part of a Beaches as Classrooms program.
- This year, nearly 2,000 students from elementary, middle and high schools across western New York participated in the Canisius Ambassadors for Conservation program at Iroquois National Wildlife Refuge (N.Y.). This recent collaboration between Canisius College and the refuge trains select college students to provide conservation lessons to school groups and the general public.



Refuge events often introduce children and adults to wildlife-related activities.



Thousands of children learn about wildlife and the natural world at refuge programs.

- Blackwater National Wildlife Refuge (Md.) continued its successful partnership with Dorchester County Public Schools, hosting environmental education programs for 600 fourth- and sixth-grade classes in the county.
- Great Meadows National Wildlife Refuge (Mass.) hosted its first Nature Day Camp during the summer.
- Edwin B. Forsythe National Wildlife Refuge (N.J.) exhibited at the New Jersey Education Association Convention in November, providing teachers with information to integrate environmental education into their curriculum and plan field trips.
- In March, Patuxent Research Refuge's Environmental Education Volunteer Coordinator Dennis Hartnett was awarded the 2009 Wonders of Wetlands (WOW) Facilitator of the Year. WOW is a K-12 curriculum based on wetland wildlife and conservation.
- Through a grant from the Service, the National Environmental Education Foundation (NEEF) held a workshop to prepare pediatric health care providers to serve as "nature champions" in their communities. Employees from four national wildlife refuges in the region attended the conference, partnering with pediatric health care providers in their local areas. This program was featured in the Los Angeles Times.
- Patuxent Research Refuge (Md.) offered "Habitat Camp" for fourth and fifth grade students from inner city Washington, D.C. For eight years, this camp has served urban youth with the chance to immerse themselves in their environment through hands-on exploration activities.

Interpretation consists of specialized programs that introduce the public to the Service and national wildlife refuges, and give them an opportunity to connect with nature and wildlife conservation in novel ways. More than 160,000 visitors participated in interpretive activities this year throughout the region.

- Many refuges held events in October in celebration of National Wildlife Refuge Week.
- In April, staff and volunteers from the Potomac River National Wildlife Refuge Complex (Va.) participated in the annual Eagle Festival at Mason Neck State Park in Fairfax, Va., attended by more than 2,000 people.
- Great Swamp National Wildlife Refuge (N.J.) and the Friends of Great Swamp hosted more than 800 visitors at the 11th annual Fall Festival in September.
- Approximately 350 people attended Heritage Fest 2010 at Erie National Wildlife Refuge (Pa.).
- The hands-on exhibit at the Kettle Pond Visitor Center at Ninigret National Wildlife Refuge (R.I.) has been recognized as "Best of New England" 2010 Editors' Choice in Yankee Magazine's Travel Guide to New England.



The Rhode Island National Wildlife Refuge Complex Kettle Pond Visitor Center was recognized for the experience it offers visitors.

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There are 72 national wildlife refuge areas in the Service's 13-state Northeast Region, many of which are managed together as refuge complexes. Learn more at <http://www.fws.gov/northeast/refuges>.



“Sooner or later you are likely to meet the sign of the flying goose – the emblem of the national wildlife refuges.”

-Rachel Carson